

FIRST RECORD OF THE EUTHECOSOMATOUS PTEROPOD *LIMACINA HELICOIDES* JEFFREYS, 1877 FROM THE INDIAN OCEAN

by

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Most euthecosomatous pteropods are distributed over large openwater areas of the Atlantic, Pacific and Indian Oceans in areas of suitable temperature. *Limacina helicoides* Jeffreys, 1877 is unusual in that its known range is largely restricted to the Atlantic Ocean. The species is widespread in the Atlantic and has been recorded at a number of localities in the northern North Atlantic, off the west coast of Africa in the South Atlantic, and in the Mediterranean Sea. *L. helicoides* is bathypelagic, with most of the Atlantic records being at depths of 500 to 1000m (Tesch, 1946; van der Spoel, 1967; Bé and Gilmer, 1977). Despite the wide range of *L. helicoides* in the Atlantic Ocean, it has been found only rarely in the Pacific Ocean and never in the Indian Ocean. Tesch (1948) recorded single individuals of *L. helicoides* at each of two Pacific stations: Dana Station 3642 III southwest of New Zealand (46°43'S; 176°08'E) and Dana Station 3663 II east of Australia (33°33'S; 154°04'E). It has also been recorded at unspecified stations in the Pacific Subantarctic and in the Drake Passage (Be and Gilmer, 1977).

During the First International BIOMASS Experiments the Antarctic Division of the Australian Department of Science and Technology collected two individuals of *L. helicoides* in a horizontal tow at 1000m at Station 125 in the southern Indian Ocean (55°01'54"S; 99°53'42"E) on 5 March 1981. The larger of the individuals was 12.0mm in diameter and the smaller 4.1mm. The flattened spire, wide aperture, inflated body whorl, brown shell colour, and dark body colour all served to clearly identify the two specimens as *L. helicoides* (Tesch, 1946; van der Spoel, 1967). The specimens have been deposited in the Western Australian Museum and have registration number 2201-82.

Little is known of the biology of *L. helicoides*. Tesch (1946) and van der Spoel (1967) provided detailed information on shell form and anatomy and remarked that the species is ovoviviparous. Lalli and Wells (1978) examined the reproductive mechanisms of all seven extant species of *Limacina*. Five produce planktonic egg masses from which free-swimming veligers hatch. A sixth species, *L. inflata* (d'Orbigny, 1836) retains developing larvae attached to the mantle lining of females. The larvae are released as free-swimming veligers. Female *L. helicoides* retain encapsulated juveniles in the mucous gland. In contrast to the other *Limacina*, *L. helicoides* has no free-swimming veliger stage. Juveniles emerge from the female at a shell diameter of 5.0mm. The 4.1mm individual from the southern Indian Ocean is thus a recently released juvenile and the 12.0mm individual is an adult, near the maximum diameter of 15mm recorded by Lalli and Wells (1978).

The only other data on living *L. helicoides* was provided by Smith and Teal (1973) in an examination of variations in respiration rates in relation to the temperatures and pressures encountered by *L. helicoides* in its natural environment.

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